

## DECISION

### ENVIRONMENTAL ASSESSMENT: MANAGEMENT OF PREDATION LOSSES TO THREATENED AND ENDANGERED SPECIES POPULATIONS IN THE COMMONWEALTH OF MASSACHUSETTS

#### I. PURPOSE

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program has prepared an Environmental Assessment (EA) to analyze the potential environmental and social impacts to the quality of the human environment from resolving nest predation of ground-nesting threatened and endangered species in Massachusetts (USDA 2011). The EA documents the need for reducing nest predation in the Commonwealth and assesses potential impacts on the human environment of four alternatives to address that need. WS' proposed action in the EA would continue an management program by integrating methods to fully address the need to reduce nest predation risks associated with avian and mammalian nest predators when requested in the Commonwealth.

Nest predation associated with the following avian and mammalian species were addressed in the EA: Virginia opossum (*Didelphis virginiana*), Norway rats (*Rattus norvegicus*), coyotes (*Canis latrans*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), raccoons (*Procyon lotor*), fisher (*Martes pennanti*), short-tailed weasel (*Mustela erminea*), long-tailed weasel (*Mustela frenata*), mink (*Mustela vison*), striped skunks (*Mephitis mephitis*), bobcats (*Lynx rufus*), feral cats (*Felis domesticus*) along with American crows (*Corvus brachyrhynchos*) and fish crows (*Corvus ossifragus*).

The EA was prepared by WS to determine if the proposed action or the other alternatives could have a significant impact on the quality of the human environment. Specifically, the EA was prepared to: 1) facilitate planning and interagency coordination, 2) streamline program management, 3) evaluate the potential environmental consequences of the alternatives related to the issues of reducing nest predation on ground-nesting birds, and 4) clearly communicate to the public the analysis of individual and cumulative impacts.

#### II. NEED FOR ACTION

The coastal areas of Massachusetts including the ocean front (beaches) and outlying islands have been historically known for hosting large numbers of nesting, migrating, and wintering colonial waterbirds, waterfowl, shorebirds, raptors, and songbirds. Many threats, including habitat loss and degradation, severe weather events, predation, disease, sea level rise, water quality decline, and human disturbance, place the avian communities in jeopardy. The native ground nesting colonial waterbirds and shorebirds are preyed upon by native and introduced mammalian predators and abundant avian predators. The rates of predation on ground nesting bird eggs increase when predator density and diversity increase (Lariviere 2004). Ground-nesting waterbirds that can be affected by nest predation include piping plovers (*Charadrius melodus*), a federally listed threatened species; roseate terns (*Sterna dougallii*), a federally listed endangered species; and various colonial and beach nesting waterbirds that are considered species of special concern by state and federal listing. Those colonial nesting waterbirds and shorebirds include common terns (*Sterna hirundo*), least terns (*Sterna antillarum*), arctic terns (*Sterna paradisaea*), American oystercatchers (*Haematopus palliatus*), and black skimmers (*Rynchops niger*).

The need for action arises from requests for assistance received by WS to reduce and prevent nest predation associated with avian and mammalian nest predators from occurring. WS would only conduct activities after receiving a request for assistance. Before initiating nest predator management activities in



the Commonwealth, a Memorandum of Understanding, cooperative service agreement, or other comparable document would be signed between WS and the cooperating entity which lists all the methods the property owner or manager would allow to be used on property they own and/or manage.

### **III. SCOPE OF ANALYSES IN THE EA**

The EA evaluates the need for nest predator management to reduce threats of predation on eggs and nestlings of ground nesting bird species along the beaches and offshore islands within the Commonwealth of Massachusetts wherever such management is requested by a cooperator. The area encompassed by the EA where nest predator management could be conducted, when requested, is within one mile of the mean high tide line of the 1,519 miles (2,444 km) of Massachusetts tidal shoreline, encompassing numerous inlets and islands. This area includes Essex, Suffolk, Norfolk, Plymouth, Barnstable, Bristol, Dukes, and Nantucket Counties. Because many species of colonial nesting birds can relocate their colony sites on a seasonal basis, almost any suitable habitat along the Massachusetts coast could potentially require nest predator management and was covered under the scope of the EA.

The analyses in the EA are intended to apply to any action taken by WS to alleviate nest predation that may occur in any locale and at any time within the mean high tide line of the Massachusetts tidal shoreline, including the numerous inlets and islands. The EA emphasizes major issues as they relate to specific areas; however, the issues addressed apply wherever ground-nesting colonial waterbirds occur along the coastal areas and the resulting predation management activities would occur. The standard WS Decision Model (Slate et al. 1992, USDA 1997, USDA 2011) would be the site-specific procedure for individual actions conducted by WS in the Commonwealth.

The United States Fish and Wildlife Service (USFWS) has jurisdiction over the management of migratory birds and has specialized expertise in identifying and quantifying potential adverse effects to the human environment from nest predator management activities. The USFWS was a cooperating agency with WS in developing the EA to analyze cumulative take of crows and to ensure compliance with the National Environmental Policy Act (NEPA). Native migratory bird species are afforded protection from take by the Migratory Bird Treaty Act (MBTA); however, take can occur when deemed appropriate to the Act and a depredation permit has been issued by the USFWS or through the establishment of depredation orders which allow birds to be taken without the need for a depredation permit when the criteria of the order has been met. Therefore, any take involved with the alternatives would only occur when a depredation permit has been issued by the USFWS and only at levels permitted or pursuant to existing depredation orders. American crows and fish crows were the only avian species addressed in the EA. Take of those crow species can occur under a depredation order without the need for a depredation permit when those species are committing or about to commit damage, including predation on native wildlife (see 50 CFR 21.43).

The EA was made available to the public for review and comment by a legal notice published in the *Boston Herald* newspaper from April 7, 2011 through April 9, 2011. A notice of availability and the EA were also made available for public review and comment on the APHIS website at [http://www.aphis.usda.gov/wildlife\\_damage/nepa.shtml](http://www.aphis.usda.gov/wildlife_damage/nepa.shtml) beginning on April 5, 2011. A letter of availability was also mailed directly to agencies, organizations, and individuals with probable interest in nest predator management in the Commonwealth. The public involvement process ended on May 6, 2011. WS received no comment letters during the public comment period. Based upon final review of the EA, several minor editorial changes have been incorporated into the EA. Those minor changes enhanced the understanding of the proposed program, but did not change the analysis provided in the EA.

### **IV. RELATIONSHIP OF THE EA TO OTHER ENVIRONMENTAL DOCUMENTS**



The relationship of the EA to other documents that address wildlife damage management were also discussed in the EA including WS' programmatic Final Environmental Impact Statement (FEIS) (USDA 1997), the EA developed by WS on managing threats of damage associated with wildlife at airports in the Commonwealth (USDA 2002), and an EA developed by WS to address gull damage in the Commonwealth (USDA 2010).

## **V. AUTHORITY AND COMPLIANCE**

WS is authorized by law to reduce damage caused by wildlife through the Act of March 2, 1931 (46 Stat. 1468; 7 U.S.C. 426-426b), as amended and the Act of December 22, 1987 (101 Stat. 1329-331, 7 U.S.C. 426c). Overall management of native migratory birds is the responsibility of the USFWS under the MBTA. As the authority for the management of migratory birds, the USFWS was a cooperating agency during the development of the EA and provided input to ensure an interdisciplinary approach according to the NEPA and agency mandates, policies, and regulations. The Massachusetts Division of Fisheries and Wildlife (MDFW) is responsible for managing wildlife in the Commonwealth, including those avian and mammalian nest predators addressed in the EA. Information from the USFWS and the MDFW has been provided to WS to assist in the analysis of potential impacts of WS' proposed activities on avian and mammalian populations in the Commonwealth.

The EA and this Decision ensures WS' actions comply with the NEPA, with the Council on Environmental Quality guidelines (40 CFR 1500), and with APHIS' NEPA implementing regulations (7 CFR 372). All nest predation management activities, including disposal requirements, would be conducted consistent with: 1) the Endangered Species Act of 1973, 2) the MBTA, 3) the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 4) applicable Executive Orders, and 5) applicable federal, Commonwealth, and local laws, regulations and policies, including WS' Directives.

## **VI. DECISIONS TO BE MADE**

Based on the scope of the EA, the decisions to be made are: 1) should WS continue to conduct nest predator management to alleviate and prevent predation on ground nesting waterbirds, 2) should WS implement a management strategy using an integrated methods approach, including technical assistance and direct operational assistance, to meet the need for nest predator management in Massachusetts, 3) if not, should WS attempt to implement one of the alternatives to an integrated management strategy as described in the EA, and 4) would the proposed action result in adverse impacts to the environment requiring the preparation of an Environmental Impact Statement (EIS).

## **VII. AFFECTED ENVIRONMENT**

Those species of nest predators addressed in the EA can be found throughout the year across the Commonwealth where suitable habitat exists for foraging, loafing, roosting, and breeding. Those nest predators addressed are capable of utilizing a variety of habitats in the Commonwealth. In 2009, there were 138 coastal sites surveyed in Massachusetts for the presence of ground nesting colonial waterbirds. Seventy-eight sites were occupied by nesting birds of one or more species in Massachusetts during 2009 (Mostello 2010). There were 220 coastal sites surveyed at least once in Massachusetts for the presence of breeding piping plovers during the 2009 nesting season. Of those, 125 sites reported breeding pairs of plovers (Melvin 2010). Additional information on the affected environment was provided in Chapter 4 of the EA.

## **VIII. ISSUES ADDRESSED IN THE ANALYSIS OF ALTERNATIVES**

Issues related to wildlife damage management were initially identified and defined during the development of WS' programmatic FEIS (USDA 1997). Issues related to nest predation management in the Commonwealth were defined and preliminary alternatives were identified through consultation with the USFWS and with the MDFW. The EA was also made available to the public for review and comment through notices published in local media and through direct notification of interested parties.

Chapter 2 of the EA describes in detail the issues considered and evaluated in the EA (USDA 2011). The following issues were identified as important to the scope of the analysis (40 CFR 1508.25) with each alternative evaluated in the EA relative to the impacts on the major issues:

- Issue 1 - Effects of Damage Management Activities on Target Wildlife Populations
- Issue 2 - Effects of Damage Management Activities on the Populations of Non-target Wildlife
- Issue 3 - Effects of Damage Management Activities on Threatened and Endangered Species
- Issue 4 - Effectiveness of Nest Predator Damage Management
- Issue 5 - Effects of Management Methods on Human Health and Safety
- Issue 6 - Effects on the Socio-cultural Elements of the Human Environment
- Issue 7 - Humaneness and Animal Welfare Concerns of Methods
- Issue 8 - Effects of Damage Management Activities on the Regulated Harvest of Those Species
- Issue 9 - Effects on Recreation in Areas Where Damage Management Activities are Conducted

## **IX. ISSUES CONSIDERED BUT NOT ANALYZED IN DETAIL WITH RATIONALE**

In addition to those issues analyzed in detail, several issues were identified during the development of the EA but were not considered in detail. The rationale for the decision not to analyze those issues in detail is discussed in the EA. Those issues not analyzed in detail were:

- Appropriateness of Preparing an EA (Instead of an EIS) For Such a Large Area
- WS' Impact on Biodiversity
- A Loss Threshold Should Be Established Before Allowing Lethal Methods
- Nest Predator Damage Management Should Not Occur at Taxpayer Expense
- Cost Effectiveness of Management Methods
- Nest Predator Damage Should Be Managed By Private Entities
- Effects from the Use of Lead Ammunition in Firearms
- Impacts of Dispersing Wildlife to other Areas
- Site-specific Analysis Should be Made for Every Location Where Nest Predator Damage Management Could Occur
- Inability to know if an Individual of a Given Wildlife Species are Actually Nest Predators

## **X. DESCRIPTION OF THE ALTERNATIVES**

The following four alternatives were developed to respond to the issues identified in Chapter 2 of the EA and to address the need for action discussed in Chapter 1 (USDA 2011). Chapter 4 in the EA analyzes the environmental consequences of each alternative in comparison to determine the extent of actual or potential impacts on the issues. Below is a summary of the alternatives analyzed in detail.

### **Alternative 1 – No Nest Predator Damage Management Conducted by WS**

Under the no involvement alternative, WS would not be involved with any aspect of nest predator management activities in Massachusetts. All requests for assistance received by WS would be referred to the USFWS, the MDFW, and/or other entities. The take of nest predators could continue to occur under



this alternative when predation is occurring or could occur in accordance with depredation permits issued by the USFWS and the MDFW as well as under the depredation orders and during the regulated hunting season in the Commonwealth. Most of the methods described in Appendix B of the EA under this alternative to alleviate nest predation would be available under any of the alternatives and would be available to all entities (USDA 2011).

### **Alternative 2 – Nest Predator Damage Management by WS through Technical Assistance Only**

Under the technical assistance only alternative, WS would address every request for assistance with technical assistance only. Technical assistance would provide those persons seeking assistance with information and recommendations on nest predator management that those cooperators could employ without WS' direct involvement in the action. Technical assistance could be employed through personal or telephone consultations and through site visits. Under this alternative, the immediate burden of resolving threats of nest predation associated with avian and mammalian predators would be placed on property owners and managers where nesting occurs. Those persons could employ those methods recommended by WS, could employ other methods, or could take no further action. Only those methods legally available for use by the appropriate individual would be recommend or loaned by WS. WS would continue to recommend an integrated approach using lethal and non-lethal methods using those methods available. Similar to Alternative 1, most methods described in Appendix B of the EA would be available to those persons seeking assistance with alleviate nest predation.

### **Alternative 3 - Continuing the Current Integrated Approach to Managing Nest Predation (Proposed Action/No Action)**

The proposed action/no action alternative would continue the current implementation of an adaptive integrated approach utilizing non-lethal and lethal techniques, as deemed appropriate using the WS Decision Model, to reduce nest predation caused by avian and mammalian predators in the Commonwealth. To meet this goal, WS would continue to respond to requests for assistance with, at a minimum, technical assistance, or when funding is available, operational damage management. Funding could occur through federal appropriations or from cooperative funding. Currently, direct operational assistance provided by WS in the Commonwealth is conducted through cooperative funding.

All methods addressed in Appendix B of the EA and the text of the EA could be employed by WS to resolve requests for assistance to manage nest predation in the Commonwealth. However, based on further consideration, the use of zinc phosphide and anti-coagulant would not be used under the proposed action alternative if selected by this Decision. Zinc phosphide and anti-coagulants are rodenticides employed to alleviate damage associated with small rodents, such as rats, mice, voles, and ground squirrels. Norway rats are the only nest predator species addressed in the EA that could be addressed using those rodenticides. Although Norway rats are known to predate on eggs, threats to ground nesting birds associated with rats occur infrequently and other methods are available to address those predation risks.

The environmental consequences of the proposed action alternative addressed in Chapter 4 of the EA for those issues analyzed in detail would not change substantially from the analyses that occurred in the EA. The environmental risks would likely be lower than those risks addressed in the EA if rodenticides are not available for use. Rodenticides would continue to be available to other entities under this alternative and could be employed by other entities with the appropriate applicators license. However, since rats are addressed infrequently by WS when addressing nest predation and the availability of other methods to address rats if predation occurs, WS would not employ zinc phosphide or anti-coagulants to target rats under this alternative. Using the WS Decision model discussed in the EA, WS would employ other methods singularly or in combination in an integrated approach to alleviate nest predation.

#### **Alternative 4 – Managing Nest Predation Using Non-lethal Methods Only**

Under this alternative, WS would be required to implement non-lethal methods only to resolve nest predation when a request for assistance is received. Only those methods discussed in Appendix B of the EA that are considered non-lethal would be employed by WS. No lethal take would occur by WS. The use of lethal methods could continue to be used under this alternative by those persons in areas where nest predation occurs. The non-lethal methods used or recommended by WS under this alternative would be identical to those identified in any of the alternatives except the repellent mesurol would only be available for use by WS' personnel.

#### **XI. ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL WITH RATIONALE**

Additional alternatives were also evaluated but were not considered in detail in the EA with rationale provided (USDA 2011). The alternatives that were analyzed in the EA but not in detail include:

- Non-lethal Methods Implemented before Lethal Methods
- Use of Lethal Methods Only by WS
- Trap and Translocate Only
- Reducing Damage by Managing Nest Predator Populations through the Use of Reproductive Inhibitors
- Short Term Eradication and Long Term Population Suppression
- Bounties
- Use of Non-lethal methods Only, Except for Chemical Methods

#### **XII. STANDARD OPERATING PROCEDURES**

The WS program in Massachusetts uses many standard operating procedures and conducts work pursuant to WS' Directives. Standard operating procedures are discussed in detail in Chapter 5 of WS' programmatic FEIS (USDA 1997) and in Chapter 3 of the EA (USDA 2011). Those standard operating procedures would be incorporated into activities conducted by WS when addressing nest predation in the Commonwealth under the proposed action alternative (Alternative 3), under the non-lethal methods only alternative (Alternative 4), and when applicable, under the technical assistance alternative (Alternative 2). If the no involvement by WS alternative (Alternative 1) is selected, the lack of assistance by WS would preclude the employment or recommendation of those standard operating procedures addressed in the EA.

#### **XIII. ENVIRONMENTAL CONSEQUENCES FOR ISSUES ANALYZED IN DETAIL**

The EA analyzes the environmental consequences of each alternative as each alternative relates to the issues identified to provide information needed for making informed decisions in selecting the appropriate alternative to address the need for action. The following resource values in Massachusetts are not expected to be significantly impacted by any of the alternatives analyzed in the EA: soils, geology, minerals, water quality/quantity, flood plains, wetlands, critical habitats (areas listed in threatened and endangered species recovery plans), visual resources, air quality, prime and unique farmlands, aquatic resources, timber, and range. The activities proposed in the alternatives would have a negligible effect on atmospheric conditions including the global climate. Meaningful direct or indirect emissions of greenhouse gases would not occur as a result of any of the alternatives. Those alternatives would meet the requirements of applicable laws, regulations, and Executive Orders, including the Clean Air Act and Executive Order 13514.

Chapter 4 of the EA analyzes the environmental consequences of each alternative to determine the extent of actual or potential impacts on those major issues identified in the EA. The proposed action/no action



alternative serves as the baseline for the analysis and the comparison of expected impacts among the alternatives. The analysis also takes into consideration mandates, directives, and the procedures of WS, the USFWS, and the MDFW. The analyses in Chapter 4 of the EA indicate the potential impacts to the quality of the human environment would be similar across the alternatives.

### **Issue 1 - Effects of Damage Management Activities on Target Wildlife Populations**

Under the proposed action, WS would incorporate non-lethal and lethal methods described in Appendix B of the EA in an integrated approach in which all or a combination of methods could be employed to resolve a request for assistance. WS would recommend and operational employ both non-lethal and lethal methods, as governed by federal, Commonwealth, and local laws and regulations under the proposed action. The appropriateness of methods and techniques would be applied based on the WS Decision Model using inputs from each request for assistance.

Non-lethal methods can disperse or otherwise make an area unattractive to nest predators which could reduce the presence of those species at the site and potentially the immediate area around the site where non-lethal methods are employed. Non-lethal methods would be given priority when addressing requests for assistance (WS Directive 2.101). However, non-lethal methods would not necessarily be employed to resolve every request for assistance if deemed inappropriate by WS' personnel using the WS Decision Model, especially in situations where the requesting entity is already attempting to resolve predation risks using non-lethal methods. Non-lethal methods are used to exclude, harass, and disperse target wildlife from areas where predation is occurring or could occur. When effective, non-lethal methods would disperse nest predators from the area resulting in a reduction in the presence of those species at the site where those methods were employed. Non-lethal methods are generally regarded as having minimal impacts on overall populations of wildlife since those species are unharmed. The continued use of non-lethal methods often leads to the habituation to those methods, which can decrease their effectiveness. Lethal methods are often employed to reinforce non-lethal methods and to remove nest predators that have been identified as posing a threat of predation. The use of lethal methods would result in local reductions of nest predators in the areas where predation has occurred or could occur. The number of individual nest predators removed from the population using lethal methods would be dependent on the number of requests for assistance received, the number of individuals involved with the associated predation threat, and the efficacy of methods employed.

Nest predators that could be lethally taken by WS under the proposed action could be taken by other entities in the absence of WS' direct involvement under the other alternatives since the take of those species can occur when a depredation permit has been issued by the MDFW for the take of mammalian predators or during annual hunting and trapping seasons. Crows could be lethally taken to alleviate predation threats under depredation orders and/or during the regulated hunting seasons in the Commonwealth. Since the lack of WS' direct involvement does not preclude the taking of nest predators by other entities, WS' involvement in the taking of those nest predators under the proposed action would not be additive to the number of predators that could be taken by other entities in the absence of WS' involvement. As was shown in the EA, the species of nest predators addressed in the EA have been lethally taken by other entities in the Commonwealth to alleviate damage or threats of damage or during annual regulated hunting and trapping seasons. The number of individuals taken annually would likely be similar across the alternatives, since take could occur even if WS was not directly involved with providing assistance under Alternative 1 and Alternative 2. Those activities proposed, including the proposed take of nest predators, under Alternative 3 would not be additive to the number of each species that could be taken by other entities under the other alternatives despite the lack of WS' direct involvement.



In addition, most non-lethal and lethal methods available for resolving nest predation would be available under any of the alternatives. Therefore, WS' use of those methods available under all of the alternatives would not be additive to the environmental status quo since most of those methods could be employed by any entity to alleviate nest predation.

Based on those quantitative and qualitative parameters addressed in the EA, the proposed take levels of each species of nest predators addressed under the proposed action alternative (Alternative 3) would be considered of low magnitude when compared to population trend data, population estimates, and/or harvest data. The number of each species that could be lethally taken annually under the alternatives is likely to be similar since the take of those species could occur despite no involvement by WS. As was shown in the EA, other entities have addressed those species to alleviate damage; therefore, any of those species that could be lethally taken under the proposed action alternative could be taken by other entities under the other alternatives. WS does not have the authority to regulate the number of nest predators taken annually by other entities. WS' take of mammalian nest predators would only occur at levels authorized and only when permitted by the MDFW for those species for which a depredation permit is required for take. Crows would be taken pursuant to the blackbird depredation order established by the USFWS.

Based on the levels of take that have occurred previously by WS and by other entities and in anticipation the take of nest predators at levels addressed in the EA, the cumulative take levels addressed are also of low magnitude when compared to those quantitative and qualitative parameters addressed in the EA. The permitting of take by the MDFW and the USFWS ensures that cumulative take levels occur within allowable levels to maintain species' populations and meet population objectives for each species.

## **Issue 2 - Effects of Damage Management Activities on the Populations of Non-target Wildlife**

Another issue often raised is the potential impacts to populations of wildlife that could be taken as non-targets during nest predator management activities. While every effort is made to minimize the risks of lethally taking non-target wildlife, the potential does exist for the unintentional take of non-targets during management activities. No non-targets are known to have been killed by WS during previous nest predator management activities using an integrated approach. Methods available to address nest predation would be similar across all the alternatives. Therefore, risks to non-targets from the use of those methods would be similar across the alternatives analyzed in detail when those methods are used as intended. Most methods discussed in Appendix B that are available for use to manage nest predation would be available to all entities under all of the alternatives. Although some risks to non-targets do occur from the use of those methods, those risks are minimal when those methods are used by trained personnel in accordance with WS Directive 2.430 and use guidelines.

Under the no involvement by WS alternative, WS would not be directly involved with any aspect of nests predator management; therefore, no direct impacts to non-targets would occur from WS. Under the technical assistance only alternative, WS could provide information on the proper use of methods and provide demonstration on the use of methods but would not be directly involved with using methods to alleviate nest predation risks. Similar to the no WS involvement alternative, under the technical assistance alternative, if methods are applied as intended and with regard for non-target hazards, those methods would not result in the decline in non-target species' populations. If requestors are provided technical assistance but do not implement any of the recommended actions and take no further action, the potential impacts to non-targets would be lower compared to the proposed action. If those persons requesting assistance implement recommended methods appropriately and as instructed or demonstrated, the potential impacts to non-targets would be similar to the proposed action. Methods or techniques not implemented as recommended or used inappropriately would likely increase risks to non-targets. When employing direct operational assistance under the proposed action alternative, WS could employ methods



and use techniques which would avoid non-target take as described in Chapter 3 of the EA under the standard operating procedures and those measures and procedures discussed in WS' programmatic FEIS (USDA 1997).

The ability to reduce risks of nest predation would be variable based upon the skills and abilities of the person implementing actions under Alternative 1 and Alternative 2. If those methods available are applied as intended, risks to non-targets would be minimal to non-existent. If methods available are applied incorrectly or applied without knowledge of nest predator or non-target behavior, risks to non-target wildlife would be higher under any of the alternatives. Under the proposed action alternative, those persons could request direct operational assistance from WS to reduce risks of nest predation, which increases the likelihood that non-target species would be unaffected by management activities.

### **Issue 3 – Effects of Damage Management Activities on Threatened and Endangered Species**

Special efforts are made to avoid jeopardizing T&E species through biological evaluations of the potential effects and the establishment of special restrictions or mitigation measures. SOPs to avoid T&E effects are described in Chapter 3 of the EA (USDA 2011) and in WS' programmatic FEIS (USDA 1997).

During the development of this EA, consultation with the USFWS under Section 7 of the ESA also occurred. Based on consultation with the USFWS, the USFWS acknowledges the proposed activities would benefit those ground nesting T&E species along the mainland and island coastal beaches of Massachusetts. In addition, WS would consult with the USFWS on a site-by-site basis in order to conclude with a determination of effects (T. Chapman, USFWS pers. comm. 2011). In addition, Based on the methods and scope of activities proposed under this alternative, activities conducted within the scope of analysis would benefit those ground nesting species listed as threatened, endangered, or species of special concern and have no effect on other species listed as threatened and endangered in the Commonwealth of Massachusetts.

### **Issue 4 - Effectiveness of Nest Predator Damage Management**

The methods available to reduce risks of nest predation would be similar across the alternatives analyzed in detail. Since most of those methods available for reducing risks of nest predation would be available under all the alternatives, the effectiveness of those methods when used as intended would be similar among the alternatives. A common issue raised is that the use of lethal methods is ineffective because nest predators are likely to return to the area, either after removal occurs or the following year when dispersal of young occurs, which gives the impression of creating a financial incentive to continue the use of only lethal methods. This argument assumes nest predators only return to an area where predation was occurring if lethal methods are used. However, the effects of non-lethal methods are also often temporary, which could result in nest predators returning to an area where predation was occurring once those methods are no longer used. The common factor when employing any method is that nest predators would return if suitable habitat continues to exist at the location where predation was occurring and population densities of those species are sufficient to occupy all available habitats.

Dispersing nest predators using non-lethal methods often requires repeated application which increases costs, moves predators to other areas where they could cause damage, and are temporary if habitat conditions remain unchanged. Dispersal and translocation of nest predators could be viewed as moving a problem from one area to another which would require addressing damage caused by those species at another location. WS' recommendation of, or use of techniques to modify existing habitat or to make areas unattractive to nest predators is discussed in Appendix B of the EA. WS' objective under the proposed action/no action alternative would be to respond to requests for assistance with the most effective methods and to provide for the long-term solution to the problem using WS' Decision Model to



adapt methods in an integrated approach to managing nest predation that is agreed upon by the cooperator.

As part of an integrated approach to managing nest predation, WS would have the ability to adapt methods to predation situations to effectively reduce or prevent predation from occurring. Under the proposed integrated approach, all methods, individually or in combination, could be employed as deemed appropriate through WS' Decision Model to address requests for assistance. Once employed, methods would be further evaluated for effectiveness based on a continuous evaluation of activities by WS. Therefore, the effectiveness of methods would be considered as part of the decision process for each management request based on continual evaluation of methods and results.

Similarly, under the technical assistance only alternative (Alternative 2), WS would recommend an integrated approach to resolving predation risks using those methods deemed appropriate using the WS Decision Model that would be legally available for use by the person requesting assistance. Under the no involvement by WS alternative (Alternative 1), WS would not be involved with any aspect of nest predator management and all requests for assistance received by WS would be referred to other entities (e.g., MDFW, USFWS).

#### **Issue 5 - Effects of Management Methods on Human Health and Safety**

The threats to human safety of methods available would be similar across the alternatives since those methods would be available across the alternatives. However, the expertise of WS' employees in using those methods available likely would reduce threats to human safety since WS' employees are trained and knowledgeable in the use of those methods. If methods are used incorrectly or without regard for human safety, risks to human safety would increase under any of the alternatives that those methods could be employed. All methods described in Appendix B would be available for use to all entities to reduce risks of nest predation except for the use of DRC-1339 and mesurol for crows which can only be used by WS. The EA determined that the availability of DRC-1339 and mesurol under the proposed action would not increase risks to human safety from the use of the method (USDA 2011). Although risks do occur from the use of DRC-1339 and mesurol, when used in consideration of human safety, the use does not pose additional risks to human safety beyond those associated with the use of other methods.

#### **Issue 6 - Effects on the Socio-cultural Elements of the Human Environment**

Those species of nest predators addressed in the EA often provide aesthetic enjoyment to many people in the Commonwealth through observations, photographing, and knowing they exist as part of the natural environment. Under all the alternatives, methods available that could be employed are intended to make resources unavailable or unattractive, or to remove those individual nest predators posing a risk of predation. Management actions often result in the removal of nest predators from the area where predation could occur or in the dispersal of nest predators from an area. Since methods available are similar across the alternatives, the use of those methods would have similar potential impacts on the aesthetics of nest predators. However, even under the proposed action alternative, the dispersal and/or take of nest predators under the alternatives would not reach a magnitude that would prevent the ability to view nest predators outside of the area where predation or the threat of predation was occurring. The effects on the aesthetic values of nest predators would therefore be similar across the alternatives and would be minimal.

#### **Issue 7 - Humaneness and Animal Welfare Concerns of Methods**

The issue of humaneness was also analyzed in detail in relationship to the alternatives. Since many methods addressed in Appendix B of the EA are available under all the alternatives, the issue of method



humaneness would be similar for those methods across all the alternatives. The ability of WS to provide direct operational assistance under the proposed action alternative would ensure methods are employed by WS as humanely as possible. Under the other alternatives, methods could be used inhumanely if used inappropriately or without consideration of nest predator behavior. However, most methods, when used as intended, would be considered humane and when applied appropriately, would not increase distress of nest predators.

#### **Issue 8 - Effects of Damage Management Activities on the Regulated Harvest of Those Species**

Hunting and/or trapping seasons in the Commonwealth exist for all of the wildlife species addressed in the EA. WS would have no impact on regulated hunting under Alternative 1 since WS would not be involved with any aspect of reducing nest predation. Similarly, WS would have no impact on regulated hunting under Alternative 2 since WS would not lethally remove nest predators under the alternative. However, resource/property owners may remove mammalian nest predators under depredation permits issued by the MDFW, when required, and depredation orders established by the USFWS resulting in impacts similar to the proposed action and Alternative 1. The recommendation of non-lethal methods could disperse or exclude nest predators from areas under this alternative which could limit the ability of those persons interested to harvest those species in the management area. However, the populations of those nest predators would be unaffected by WS under the technical assistance alternative (Alternative 2).

The USFWS and the MDFW could continue to regulate populations through adjustments in allowed take during the regulated harvest seasons and through depredation orders or permits to manage predation or threats of predation. The magnitude of lethal take addressed in the proposed action would be low when compared to the mortality of those species from all known sources. When WS' proposed take of nest predators was included as part of the known mortality of those species from other sources and compared to estimated populations of those species, the impact on populations was below the level of removal required to lower population levels. The USFWS and the MDFW would determine the number of nest predators taken annually by WS through the issuance of depredation permits or adjustments in the blackbird depredation order.

Nest predator management activities conducted by WS would occur after consultation with the USFWS and the MDFW. With oversight by the USFWS and the MDFW, the number of individual nest predators allowed to be taken by WS would not limit the ability of those persons interested to harvest those species during the regulated season. All take by WS would be reported to the USFWS and the MDFW annually to ensure take by WS is incorporated into population management objectives established for those species' populations. Based on the limited take proposed by WS and the oversight by the USFWS and the MDFW, WS' take annually would have no effect on the ability of those persons interested to harvest any of the species addressed in the EA during the regulated harvest seasons.

#### **Issue 9 - Effects on Recreation in Areas Where Damage Management Activities are Conducted**

Another concern raised is the potential effects on other recreation activities in areas where nest predator management activities are conducted in the Commonwealth. Coastal areas used for nesting by ground nesting waterbird species are often utilized for a wide variety of recreational activities including swimming, hiking, dog walking, fishing, off road/all terrain vehicle use, picnicking, and bird/wildlife watching.

WS would have no impact on the ability to utilize nesting areas for any recreational activity under Alternative 1 since WS would not be involved with any aspect of managing predation associated with nest predators. Under the technical assistance only alternative (Alternative 2), WS would have no direct impact on recreational activities in coastal areas where nesting occurs since WS would not be responsible



for restricting recreational access to any sites. However, WS might recommend restricting recreational access to resource/property owners/managers to reduce impacts to nesting colonial birds and/or T&E species or during control activities being conducted by other entities resulting in impacts similar to the proposed action and the other alternatives. However, any closure or restriction would be made at the discretion of the property owner/manager. Restrictions may be based on safety concerns due to control methods such as shooting implemented by the property owner/manager.

Under the proposed action alternative (Alternative 3) and the non-lethal methods only alternative (Alternative 4), nest predator management activities would most likely occur from February through June and would have little impact on recreation activities that take place during the summer months. However, during the nesting season most local areas with current nesting activity and many with historic nesting activity are closed to public access by both private and public property owners and/or resource managers to limit damage to nesting habitat and disturbance of nesting birds or survival of fledglings. Those access restrictions occur regardless of whether or not nest predator management activities occur by WS.

#### **XIV. CUMULATIVE IMPACTS OF THE PROPOSED ACTION**

No significant cumulative environmental impacts are expected from any of the four alternatives, including the proposed action. Under the proposed action, the lethal removal of nest predators by WS would not have significant impacts on statewide populations of those species when known sources of mortality are considered. No risk to public safety is expected when activities are provided and expected by requesting individuals in Alternative 2, Alternative 3, and Alternative, since only trained and experienced personnel would conduct and/or recommend management activities. There is a slight increased risk to public safety when persons who reject assistance and recommendations conduct their own activities under Alternative 2, and when no assistance is provided under Alternative 1. However, under all of the alternatives, those risks would not be to the point that the impacts would be significant. The analysis in the EA indicates that an integrated approach to managing predation by those avian and mammalian predators addressed in the EA would not result in significant cumulative adverse impacts on the quality of the human environment.

#### **XV. DECISION AND RATIONALE**

Based on the analyses of the alternatives developed to address those issues in the EA, including individual and cumulative impacts of those alternatives, the following decision has been reached:

##### ***Decision***

I have carefully reviewed the EA prepared to meet the need for action. I find the proposed action alternative (Alternative 3) to be environmentally acceptable, addressing the issues and needs while balancing the environmental concerns of management agencies, landowners, advocacy groups, and the public. The analyses in the EA adequately address the identified issues which reasonably confirm that no significant impact, individually or cumulatively, to wildlife populations or the quality of the human environment are likely to occur from the proposed action, nor does the proposed action constitute a major federal action. Therefore, the analysis in the EA does not warrant the completion of an EIS.

Based on the analyses in the EA, the issues identified are best addressed by selecting Alternative 3 (proposed action/no action) and applying the associated standard operating procedures discussed in Chapter 3 of the EA. Alternative 3 successfully addresses (1) nest predator management using a combination of the most effective methods and does not adversely impact the environment, property, human health and safety, and/or non-target species, including T&E species; (2) it offers the greatest chance of maximizing effectiveness and benefits to resource owners and managers while minimizing



cumulative impacts on the quality of the human environment that might result from the program's effect on target and non-target species populations; (3) it presents the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety; and (4) it offers a balanced approach to the issues of humaneness and aesthetics when all facets of those issues are considered. Further analysis would be triggered if changes occur that broaden the scope of nest predator management activities in the Commonwealth, that affect the natural or human environment, or from the issuance of new environmental regulations. Therefore, it is my decision to implement the proposed action/no action alternative (Alternative 3) as described in the EA, except zinc phosphide and anti-coagulants would not be used by WS in Massachusetts to manage nest predation under Alternative 3.

### ***Finding of No Significant Impact***

Based on the analyses provided in the EA, there are no indications that the proposed action (Alternative 3) would have a significant impact, individually or cumulatively, on the quality of the human environment. I agree with this conclusion and therefore, find that an EIS should not be prepared. This determination is based on the following factors:

1. Nest predator management as conducted by WS in the Commonwealth is not regional or national in scope.
2. The proposed action would pose minimal risk to public health and safety. Risks to the public from many of the methods described in the EA were determined to be low in a formal risk assessment (USDA 1997). Based on the analyses in the EA, the methods available would not adversely affect human safety based on their use patterns.
3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected. WS' SOPs and adherence to applicable laws and regulations would further ensure that WS' activities do not harm the environment.
4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to wildlife damage management, this action is not highly controversial in terms of size, nature, or effect.
5. Based on the analysis documented in the EA and the accompanying administrative file, the effects of the proposed management program on the human environment would not be significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.
6. The proposed action would not establish a precedent for any future action with significant effects.
7. No significant cumulative effects were identified by this assessment or other actions implemented or planned within the area.
8. The proposed activities would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would they likely cause any loss or destruction of significant scientific, cultural, or historical resources.
9. WS has determined that the proposed program would benefit federally listed T&E species currently listed in the Commonwealth and would consult with the USFWS on a site-by-site basis




in order to conclude with a determination of effects. In addition, WS has determined that the proposed activities would no effect on Commonwealth-listed species.

10. The proposed action would be in compliance with all applicable federal, Commonwealth, and local laws.

### ***Rationale***

The rationale for this decision is based on several considerations. This decision takes into account public comments, social/political and economic concerns, public health and safety, and the best available science. The foremost considerations are that: 1) nest predator management would only be conducted by WS at the request of landowners/managers, 2) management actions are consistent with applicable laws, regulations, policies and orders, and 3) no adverse impacts to the environment were identified in the analysis. As a part of this Decision, the WS program in Massachusetts would not employ rodenticides to alleviate risks of nest predation and would continue to provide effective and practical technical assistance and direct management techniques that reduce nest predation.

  
Charles S. Brown, Director-Eastern Region  
USDA/APHIS/WS  
Raleigh, North Carolina

5/24/11  
Date

### **XVI. LITERATURE CITED**

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